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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,861	01/05/2001	Lewis A. Morrow	YOR9-2000-0472US1 (8728-4)	3687

7590

06/16/2004

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EXAMINER

YANCHUS III, PAUL B

ART UNIT

PAPER NUMBER

2116

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,861

Applicant(s)

MORROW ET AL.

Examiner

Paul B Yanchus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This non-final office action is in response to communications filed on 4/1/04.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-12 and 14-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cai, US Patent no. 6,501,999, in view of Lea et al., US Patent no. 6,314,447 [Lea].

Regarding claims 11 and 12, Cai teaches determining whether the processors meet the processing requirements for executing a task and choosing a processor to execute the task according to the determination. Cai does not explicitly teach querying the processors to determine whether they meet the processing requirements for executing a task. Lea teaches querying a device to obtain its processing capabilities to determine whether the device is able to perform a required processing task [column 3, lines 6-15].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Cai and Lea. Directly interrogating the processor to access its processing capabilities will enable more efficient use of system memory by eliminating the need to store a list the processing capabilities of each processor in the system memory.

Cai and Lea teach that task scheduling circuitry performs the determination of whether a processor has adequate processing capabilities to perform a task. Consequently, Cai and Lea do

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not teach that the processor performs the determination of whether it has adequate processing capabilities to perform a task. However it is merely a choice in the design of the system as to which part of the system has the burden of determining whether a processor has adequate processing capabilities to perform a task and it would have been obvious to one of ordinary skill in the art to modify the teachings of Cai and Lea to enable the processor perform the determination in order to place the burden on the processor instead of the task scheduling circuitry.

Regarding claims 14-21 and 23-30, Cai and Lea teach a multiprocessor computer system, as described above. Cai also teaches attempting to execute a task on the most power efficient processor first. In battery operation mode, the power efficient processor is used to execute tasks until it is determined that a high-performance processor is needed to execute more processor intensive tasks.

Regarding claim 22, Cai and Lea teach a multiprocessor computer system, as described above. It would have been obvious to one of ordinary skill in the art to exclude a processor from the partial order according to a predetermined condition, such as if there is not enough power in the system to power that processor.

Response to Arguments

Applicant's arguments filed on 4/1/04, regarding claims 1-10, 13 and 31-33 have been fully considered but they are not persuasive.

Regarding claims 1-10 and 13, Applicant argues that Cai does not disclose “determining that the power efficient processor should be used by default and then altering the determination in response to a condition occurring.” However, the Cai does in fact disclose “determining that the power efficient processor should be used by default and then altering the determination in response to a condition occurring.” Cai discloses a method for extending the battery operating time of a system by exercising efficient use of the battery power [column 3, lines 50-63]. Cai accomplishes this by using the power-efficient processor whenever its processing power is adequate for the system operations. The high performance processor is only used when the power-efficient processor does not have adequate processing power to perform certain operations. The high performance processor is turned off at all other times. By default, the power-efficient processor is used until a condition occurs in which the power-efficient processor is not powerful enough to perform a certain system operation. When that condition occurs it is determined that the high performance processor should perform the particular system operation. Therefore, Cai does disclose “determining that the power efficient processor should be used by default and then altering the determination in response to a condition occurring.” The rejections to claims 1-10 and 13 are maintained.

Regarding claims 31-33, Applicant argues that Cai and Inoue do not teach or suggest, “a processor attribute table adapted...to update the processing capability information dynamically when the processing capability information changes.” However, Inoue teaches storing a table of tasks, which can be performed by the processor and a flag value to indicate if the processor is currently busy [column 3, lines 20-60 and Figure 4]. Since the table stores an indication of whether the processor is currently busy, the table must be updated dynamically. Therefore Cai

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and Inoue do teach, "a processor attribute table adapted...to update the processing capability information dynamically when the processing capability information changes." The rejections to claims 31-33 are maintained.


Applicant's arguments with respect to claims 11, 12 and 14-30 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B Yanchus whose telephone number is (703) 305-8022. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Yanchus
June 10, 2004



REHANA PERVEEN
PRIMARY EXAMINER